

NEC-2090-US

09/740,790

04150011AA

Reply to office action mailed 03/02/2004

REMARKS

Claims 1 and 6 have been amended. Claims 2-5 and 7 have been canceled. Claims 8 and 9 have been added. The application now includes claims 1, 6, 8, and 9.

The title was objected to by the Examiner. The title has been amended per the Examiner's suggestion to read, "Audio Playback/Recording Apparatus Having Multiple Decoders in ROM."

The objection to claim 7 under 37 CFR 1.75 (c) is made moot by this amendment.

In the PTO-892 of Paper Number 5 of this application, the Japanese reference JP 08-63332 (should be 6332) to DeCarmo is specifically identified as having been considered. This reference corresponds to U.S. Patent 5,838,996 to deCarmo, which is being concurrently submitted as an IDS with this amendment. The deCarmo reference was referenced in the corresponding application in Japan, and the amendments made above for claims 1 and 9, substantially as presented herein, were granted in Japan over the deCarmo reference. An indication of the Examiner's consideration of deCarmo in the next office action is requested.

The amendments presented above should place the application in *prima facie* condition for allowance, and should overcome all rejections which have been lodged in the case. In particular, claims 1, 3 and 7 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa et al (Japan Patent 09-265731) in view of Sako et al. (European Patent 0762 417 A2) and further in view of Dwyer et al (US Patent 6,571,211) and further in view of Liem et al ("An Embedded System Case Study: The Firmware Development Environment For A Multimedia Audio Processor," ACM IEEE Design Automation Conference Proceedings, March 1997), and Claims 4 and 5 have been rejected under 35 U.S.C 103(a) as being unpatentable over Ozawa et al. in view of Sako et al. and further in view of Dwyer et al (US Patent 6,571,211) and further in view of Liem et al ("An Embedded System Case Study: The Firmware

NEC-2090-US

09/740,790

04150011AA

Reply to office action mailed 03/02/2004

Development Environment For A Multimedia Audio Processor," ACM IEEE Design Automation Conference Proceedings, March 1997) and further in view of Milsted et al. (US Patent 6,263,313). These rejections are traversed.

It should be understood that claim 1 as amended, now substantially includes the subject matter of claims 2-5 and 7. Claim 6 is directed to a specific feature substantially as originally presented. Claim 8 presents specific alternatives for the interface which are discussed in the specification. Claim 9 presents a method of operation of the device of claim 1 which several different operations being performed under the circumstances.

The claimed invention accepts analog or digital data from an external source such as, an external storage medium, a general purpose interface (e.g., USB, IEEE 1394, wireless LAN, RF, etc.) or from an audio input. The claimed invention outputs analog or digital data to an external storage medium, a general purpose interface (e.g., USB, IEEE 1394, wireless LAN, RF, etc.) or to an audio output. In order to meet the requirements of these interfaces and the objects of the invention, the claimed invention incorporates analog/digital conversion and data compression and decompression. The objects of the invention ensure that the device can accommodate multiple formats for the digital and analog data. This is accomplished by storing multiple types of compression firmware within the claimed invention device.

This is different from Ozawa et al. in several ways. Ozawa et al. is processing analog data from a source such as a microphone and outputting analog data to a headset. Ozawa et al. can also accept digital data and output analog data to the head phones.

Thus, one significant difference between the claimed invention and Ozawa et al. is that Ozawa et al. does not output analog or digital data to an external recording medium as is required in claim 1. The Examiner has cited Ozawa et al. section [0055], lines 8 - 9 to argue that Ozawa et al. exchanges data with an external recording medium. However, the recording medium discussed in the cited reference is

the internal hard drive of the Ozawa et al. device. The reference uses the term, "card" for which the Examiner is equating with the external recording medium. However, in section [0053], which recites,

"...although the card type hard disk is used..."

the card is defined by Ozawa et al. to be the internal hard drive storage medium and not an external element. Therefore, Ozawa et al. neither accepts or presents digital or audio data to an external recording medium.

Another major difference is that, although Ozawa et al. does mention data compression, the digital data can only be accepted in a *predetermined format*. The claimed invention does not restrict data to one specific predetermined format. The claimed invention stores multiple firmwares which can be used to compress and decompress data in a number of formats using an attribution data concept. The attribution data specified in claim 1 is relative to the compression and decompression firmware and related formats. The Examiner argues by referencing Sako et al., that compression/decompression using attributes is obvious. This is incorrect. The reference cited by the Examiner in Sako et al. is relative to header information used for enciphering purposes. There is no discussion of the *ID signal appendage* of Sako et al. as having the capability to define a compression format for the data. Page 11, line 29 of Sako et al. defines the ID to be an inhibiting signal, a plant ID, a producer ID or an encryption key. There is no mention that the ID is used as an identifier or 'attribute' to describe compression format which can then be used to select the appropriately stored firmware.

The Examiner continues to argue that the compression algorithm field of Dwyer et al. as referenced in Figure 5, element 112) combined with the compression feature of Ozawa et al. further combined with the ID appendage of Sako et al. would make the claimed invention obvious. This is incorrect. Dwyer et al. is meant to be a 'static' storage capability for voice data. That is not real time compression. Dwyer et al. creates the voice file header information after the entire file has been processed.

NEC-2090-US

09/740,790

04150011AA

Reply to office action mailed 03/02/2004

This is evidenced by the fact that the header data contains 'length 110' data which is defined by Dwyer et al. in column 6, line 39 - 40 as length of file (in minutes and seconds). The length of file cannot be determined if the file is being processed in real time. Therefore, the compression algorithm identification does not happen in real-time as is the case for the claimed invention. The claimed invention reads the attribution data and selects the appropriate firmware for decompressing the data or compresses the data and appends the appropriate attribution information in real-time. Therefore, since Dwyer et al. does not create or use the 'compression algorithm data in real time; Sako et al. appends header information that is not related to compression algorithms and Ozawa et al. does not provide a capability for multiple compression algorithms, the claimed invention would not result from any combination of these references.

The Examiner has cited Liem et al. as disclosing the ability to store multiple firmwares for data compression/decompression in ROM . However, the embedded firmware discussed by Liem et al. and referenced by the Examiner in page 2, 3rd paragraph and page 1, 2nd paragraph of Introduction, does not apply to decompression firmware. The embedded firmware of Liem et al. allows a variety of control features to be selected based on the type of data being processed. It does not discuss a plurality of decompression firmwares. In fact, the referenced cited by the Examiner is specific to MPEG audio algorithms and not a broad collection of decompression algorithms as for the claimed invention. Furthermore, what is being stored in ROM (Liem et al., page 2, 3rd paragraph) is the coefficient data being processed. Storage of the algorithms and calling of the stored algorithms is not mentioned in this reference. Therefore, adding Liem et al. to the combination of Ozawa et al., Sako et al. and Dwyer et al. will not result in the claimed invention as the information being stored is not a plurality of decompression algorithm firmwares.

As for the subject matter of claim 2 which has now been incorporated into claim 1, the *general-purpose bus* referenced by the Examiner in section [0044], lines

NEC-2090-US

09/740,790

04150011AA

Reply to office action mailed 03/02/2004

3 - 6 is not the general-purpose interface circuit of the claimed invention. The general-purpose bus, of Ozawa et al. is an internal communication bus that allows data and control to be routed within the device. The general-purpose interface circuit of the claimed invention is an interface to exchange data between the external world and the claimed invention and may be compatible with USB, IEEE 1394, wireless LAN, or home RF, as defined in the claimed invention, page 13, lines 3 - 4. In addition, Ozawa et al. does not exchange data with an external recording medium as discussed above and reiterated here. The Examiner has cited Ozawa et al. section [0055], lines 8 - 9 to argue that Ozawa et al. exchanges data with an external recording medium. However, the recording medium discussed in the cited reference is the internal hard drive of the Ozawa et al. device. The reference uses the term, "card" for which the Examiner is equating with the external recording medium. However, in section [0053], which recites,

"...although the card type hard disk is used..."

the card is defined by Ozawa et al. to be the internal hard drive storage medium and not an external element. Therefore, Ozawa et al. neither accepts or presents digital or audio data to an external recording medium.

The Examiner has again cited the use of the 'attribution data' relative to Sako et al. and Dwyer et al. As discussed above, neither of these references provide attribution data of the same type, purpose or capability of the claimed invention. Sako et al. has ID information that does not mention decompression algorithms. Dwyer et al. mention compression algorithm type but only in a static storage scenario and not as a real-time firmware based implementation of data compression and decompression as in the claimed invention. Therefore, there is no combination of any or all of the cited references that would result in the claimed invention.

As for the subject matter of claim 3 which has been incorporated into amended claim 1, there is a protection capability that is used in a system that provides a plurality of decompression firmware and uses attribution data to select the

NEC-2090-US

09/740,790

04150011AA

Reply to office action mailed 03/02/2004

appropriate firmware. It is this data that is then protected. Furthermore, Sako et al. is providing a type of watermarking to detect unauthorized copying of digital files. The claimed invention is using encryption to encipher the data for transmission and protection against unauthorized 'listening'. As Sako et al. and Ozawa et al. together or separate do not provide the features of claim 1.

With respect to the subject matter of claim 7 now incorporated into claim 1, the capabilities of the invention relative to compression and decompression algorithms are unique for the claimed invention and can not result from any combination of Sako et al. Dwyer et al. and/or Ozawa et al.

As for the subject matter of claim 4 now incorporated into claim 1, the Examiner has referenced Milsted et al. as the justification for the obviousness rejection of claim 4 that further limits the claimed invention relative to the encryption of data. Milsted et al. does, in fact discuss encryption of data using a public key system. Encryption of data is not a new technology. Citing a reference that uses encryption does not automatically make it relevant to the claimed invention. In fact, the cited reference is using encryption to protect data files in an off-line environment. That is, Milsted et al. is encrypting music, and video files for electronic distribution by creating static Security Containers (SCs). These SCs can be stored at a distribution center until requested by a subscriber. They are then transferred electronically to the subscriber. The entire file is then decrypted and made available to the subscriber. This is completely different from the claimed invention that is compressing (or decompressing) and encrypting (or decrypting) data on a real-time basis. As discussed above, the compression (or decompression) is performed using a plurality of firmware algorithms based on attribution data. Then the data is encrypted (or decrypted) and the authentication data (header and encryption/decryption key) is generated (or validated).

The reference cited by the Examiner is a separate encryption cycle for each aspect of the file. That is element 301 of figure 3, encrypts the file content, element 303 encrypts the public decryption key, 306 encrypts the private key. These data files

NEC-2090-US

09/740,790

04150011AA

Reply to office action mailed 03/02/2004

are then 'boxed' together in storage for transmission to the subscriber when the purchase is approved. Milsted et al. does not encrypt, decrypt, generate authorization data or validate authorization data in real-time.

Regarding the subject matter of claim 5 which has been incorporated into claim 1, the Examiner is incorrect in arguing that element 303 encrypts digital audio data. As discussed in Milsted et al. in column 18, lines 13 - 15, element 303 encrypts the symmetric key using the recipients public key. As discussed previously, the use of encryption is not obvious anymore than performing A/D conversion is obvious. The claimed invention is not claiming encryption in general but only encryption of the compressed data. Therefore, there is no combination of Milsted et al. with any of the other four cited references that would result in the claimed invention.

Claim 9 should be considered new and unobvious for all of the reasons noted above with respect to claim 1.

Claim 6 has been rejected under 35 U.S.C 103(a) as being unpatentable over Ozawa et al. in view of Sako et al. and further in view of Dwyer et al (US Patent 6,571,211) and further in view of Liem et al ("An Embedded System Case Study: The Firmware Development Environment For A Multimedia Audio Processor," ACM IEEE Design Automation Conference Proceedings, March 1997) and further in view of Milsted et al. (US Patent 6,263,313) and further in view of Van Wie et al. (US patent 6,240,185). This rejection is traversed.

As discussed previously, the header information claimed invention is relative to the data limited by claim 1. That is data that has been compressed (or decompressed) using a plurality of firmwares stored in ROM based upon attribution data. It is this data that is then encrypted (or decrypted) and the key information is inserted into a validation header together with individual ID (identifier) as described on page 17, lines 2 - 16 of the claimed invention. The Examiner has cited a reference that only names a public key in header. It does not insert the key itself. Furthermore, it does not insert an individual identifier as does the claimed invention. Therefore, there

NEC-2090-US

09/740,790

04150011AA

Reply to office action mailed 03/02/2004

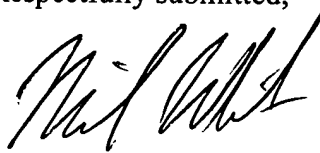
is no combination of Van Wie et al. with any of the other five cited references that would result in the claimed invention

In view of the foregoing, it is requested that the application be reconsidered, that claims 1, 6, 8 and 9 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at 703-787-9400 (fax: 703-787-7557; email: mike@wcc-ip.com) to discuss any other changes deemed necessary in a telephonic or personal interview.

If an extension of time is required for this response to be considered as being timely filed, a conditional petition is hereby made for such extension of time. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,



Michael E. Whitham
Reg. No. 32,635

Whitham, Curtis & Christofferson, P.C.
11491 Sunset Hills Road, Suite 340
Reston, VA 20190
703-787-9400
703-787-7557 (fax)

Please associate this
Application with
Customer No. 30743